## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4606969

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
ALEKSANDER ZYCH	06/26/2017
MATHIAS RAPPHAHN	06/30/2017
RALF PETRY	06/26/2017
INGO KOEHLER	06/26/2017
ANDREAS BENKER	06/26/2017

#### **RECEIVING PARTY DATA**

Name:	MERCK PATENT GMBH
Street Address:	FRANKFURTER STRASSE 250
City:	DARMSTADT
State/Country:	GERMANY
Postal Code:	64293

## **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15560602

### **CORRESPONDENCE DATA**

**Fax Number:** (703)243-6410

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

**Phone:** 703-243-6333 **Email:** mail@mwzb.com

Correspondent Name: MILLEN, WHITE, ZELANO & BRANIGAN-AEW

Address Line 1: 2200 CLARENDON BLVD.

Address Line 2: SUITE 1400

Address Line 4: ARLINGTON, VIRGINIA 22201

ATTORNEY DOCKET NUMBER:	MERCK-4635
NAME OF SUBMITTER:	ASHLEY BROOKSHIRE
SIGNATURE:	/Ashley Brookshire/
DATE SIGNED:	09/22/2017
	This document serves as an Oath/Declaration (37 CFR 1.63).

PATENT 504560258 REEL: 043662 FRAME: 0468

# Total Attachments: 6 source=MERCK-4635\_FormalDocs#page1.tif source=MERCK-4635\_FormalDocs#page2.tif source=MERCK-4635\_FormalDocs#page3.tif source=MERCK-4635\_FormalDocs#page4.tif source=MERCK-4635\_FormalDocs#page5.tif source=MERCK-4635\_FormalDocs#page6.tif

Title of	PHOSPORS AND PHOSPHOR-CONVERTED LEDS	
Invention		
An the balances	seal inventor, I hereby declare that:	
This declaration	☐ The attached application, or United States Application or PCT International Application number <u>PCT/EP2016/900061</u> filed on	
is directed to:	<b>SD</b> 02.01.2016	
	fied application was made or authorized to be made by me.	
I believe that I am	o the original inventor or an original joint inventor of a clatined invention in the application.	
AND WHEREAS		
	Merck Patent GmbH Frankfurter Strasse 250	
	64293 Darmstadt / DE	
hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and all patent(s) listed above, including any and all earlier priority rights (U.S. and foreign), divisions and continuations thereof, including any and all renewals, reissues, reexaminations and extensions thereof.		
NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and patent(s), including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, and in and to any and all U.S. (including provisional) or foreign priority and/or convention rights or benefits accruing or to accrue with respect to the filing or securing of patents in the United States and/or any countries foreign thereto concerning said invention, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and patent, including any and all cartier priority rights (U.S. and foreign), divisions and continuations thereof, any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, including the right to sue for damages occurring before the assignment, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.		
and foreign coun	ASSIGNOR hereby agrees to execute all papers that may be necessary to file applications in the United States dries for said invention and to assign the same to said ASSIGNEE, its assigns and legal representatives and to repapers that may be needed in connection with securing Letters Patents thereon.	
AND / any and all divisi	ASSIGNOR authorizes and requests the Commissioner of Patents and Trademarks to issue a Letters Patent on ions and continuations thereof, to ASSIGNEE, its assigns and legal representatives, in accordance herewith.	
The undersigned hereby grant(s) the law firm of Millen, White, Zelano & Branigau, P.C. the power to insert on this assignment information which may be necessary or desirable in order for the United States Patent and Trademark Office to properly record this document.		
IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR		
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1991 by fine or imprisonment of not more than five (5) years, or both.		
LEGAL NAME	OF INVENTOR	
	Aleksander Zych Date Date	
Signature:	<u> </u>	

Millen, White, Zhlano & Branigas, P.C. ATTORNEYS AT LAW ARLINGION COURTHOUSE PLAZA 2200 CLARENDON BOULEVARD | SUITE 1400 | APLINGTON VA 22201 TELEPHONE: 703.243.6333 | PAX: 703.243.6410

EMAIL: MAILIGMWZB.COM

Effective, September 16, 2012

Title of Invention	PHOSPORS AND PHOSPHOR-CONVERTED LEDS		
As the below nar	ncd inventor, I hereby declare that:		
This declaration			
is directed to:	United States Application or PCT International Application number PCIZEP20[6/08036] filed on 02.03.2016		
The above-identi	fied application was made or authorized to be made by me.		
I believe that I ar	n the original inventor or an original joint inventor of a claimed invention in the application.		
all patent(s) liste	Merck Patent GmbH Frankfurter Strasse 250 64293 Darmstadt / DE ed to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and d above, including any and all earlier priority rights (U.S. and foreign), divisions and continuations thereof, d all renewals, reissues, reexaminations and extensions thereof.		
ASSIGNOR here right, title and in and all Letters Pathereof, and in ar to accrue with reinvention, SAID including any any which may be gright to sue for darising from or a renewals, reissue representatives, i	NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and patent(s), including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, and in and to any and all U.S. (including provisional) or foreign priority and/or convention rights or benefits accruing or to accrue with respect to the filling or securing of patents in the United States and/or any countries foreign thereto concerning said invention, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and patent, including any and all carlier priority rights (U.S. and foreign),divisions and continuations thereof, any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations thereof, including the right to sue for damages occurring before the assignment, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.		
and foreign coun	ASSIGNOR hereby agrees to execute all papers that may be necessary to file applications in the United States tries for said invention and to assign the same to said ASSIGNEE, its assigns and legal representatives and to repapers that may be needed in connection with securing Letters Patents thereon.		
	ASSIGNOR authorizes and requests the Commissioner of Patents and Trademarks to issue a Letters Patent on ions and continuations thereof, to ASSIGNEE, its assigns and legal representatives, in accordance herewith.		
The un assignment infor properly record t	dersigned hereby grant(s) the law firm of Millen, White, Zelano & Branigan, P.C. the power to insert on this mation which may be necessary or desirable in order for the United States Patent and Trademark Office to his document.		
	IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR		
	by acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by ment of not more than five (5) years, or both.		
LEGAL NAME Inventor:	OF INVENTOR Mathias Rapphishin Date: 30.6.2019		
Signature:			

Millen, White, Zelano & Branigan, P.C. Attorneys at Law Arlington Courthouse Plaza 2200 Clarendon Boulevard | Suite 1400 | Arlington VA 22201 Telephone: 703.243.6333 | Fax: 703.243.6410

EMAIL: MAIL@MWZ8.COM

Effective, September 16, 2012

Title of Invention	PHOSP	ORS AND PHOSPHOR-CONVERTED LEDS
As the below nan	ned invento	r, I hereby declare that
This declaration		The attached application, or
is directed to:	<b>S</b> 21	United States Application or PCT International Application number PCT/iP2016/060361 filed on 02.03.2016
	• • •	ation was made or authorized to be made by me.
		al inventor or an original joint inventor of a claimed invention in the application.
AND WHEREAS		
Merck Patent GmbH Frankfurter Strasse 250 64293 Darmstadt / DE hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and all patent(s) listed above, including any and all earlier priority rights (U.S. and foreign), divisions and continuations thereof, including any and all renewals, reissues, reexaminations and extensions thereof.		
NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and patent(s), including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, and in and to any and all U.S. (including provisional) or foreign priority and/or convention rights or benefits accruing or to accrue with respect to the filling or securing of patents in the United States and/or any countries foreign thereto concerning said invention, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and patent, including any and all carlier priority rights (U.S. and foreign), divisions and continuations thereof, any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, including the right to sue for damages occurring before the assignment, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.		
and foreign coun	tries for an	Shereby agrees to execute all papers that may be necessary to file applications in the United States in the western and to assign the same to said ASSIGNEE, its assigns and legal representatives and to at may be needed in connection with securing Letters Patents thereon.
AND / any and all divisi	ASSIGNOI ions and co	authorizes and requests the Commissioner of Patents and Trademarks to issue a Letters Patent on authorizes thereof, to ASSIGNEE, its assigns and legal representatives, in accordance herewith.
The un assignment infor properly record t	mation wh	hereby grant(s) the law firm of Millen, White, Zelano & Branigan, P.C. the power to insert on this ich may be necessary or desirable in order for the United States Patent and Trademark Office to ent.
IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR		
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.		
LEGAL NAME		NTOR Date: 2610412017
Inventor:	Ralf Petry	Date: 26/04/2017
Cianatawa		Control of the Contro

Millen, White, Zelano & Branigan, P.C. Attorneys at Law Arlington Courthouse Plaza 2200 Clarendon Boulevard | Suite 1400 | Arlington VA 22201 Telephone: 703.243.6333 | Fax: 703.243.6410

Email: mail@mwzb.com

Effective, September 16, 2012

Title of	PHOSPORS AND PHOSPHOR-CONVERTED LEDS		
Invention			
As the below nan	As the below named inventor, I hereby declare that:		
This declaration			
is directed to:	United States Application or PCT International Application number <u>PCT/EP2016/000361</u> filed on <u>Q 02.03.2016</u>		
The above-identit	fied application was made or authorized to be made by me.		
I believe that I an	the original inventor or an original joint inventor of a claimed invention in the application.		
hereinafter referm	AND WHEREAS  Merck Patent GmbH Frankfurter Strasse 250 64293 Darmstadt / DE hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and all patent(s) listed above, including any and all earlier priority rights (U.S. and foreign), divisions and continuations thereof, including any and all renewals, reissues, reexaminations and extensions thereof.		
NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and patent(s), including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reasonateations and extensions thereof, and in and to any and all U.S. (including provisional) or foreign priority and/or convention rights or benefits accraing or to accrue with respect to the filling or securing of patents in the United States and/or any countries foreign thereto concerning said invention, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and patent, including any and all earlier priority rights (U.S. and foreign), divisions and continuations thereof, any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, including the right to sue for damages occurring before the assignment, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such Letters Patent, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.			
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IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR			
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.			
LEGAL NAME	OF INVENTOR / Date: La Jun 10 A		
Signature:			
	The state of the s		

MILLEN, WHITE, ZELAHO & BRANIGAN, P.C.
ATTORNEYS AT LAW
ARLINGTON COURTHOUSE PLAZA
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TELEPHONE: 703.243.6333 | FAX: 703.243.6410
EMAIL: MAIL@MWZB.COM

Effective, September 16, 2012

	Title of Invention	PHOSPORS AND PHOSPHOR-CONVERTED DEDS		
(distante	As the hislow named inventor, I hereby declare that:			
*****	This declaration	☐ The attached application, or		
*****		United States Application or PCT International Application number <u>PCT/FP2016/000361</u> filed on		
	is directed to:	<b>158.</b> <u>02.03.2016</u>		
-	The above-identif	fied application was made or authorized to be made by me.		
	I believe that I an	n the original inventor or an original joint inventor of a claimed invention in the application.		
***************************************	hereinafter referr all patent(s) listed including any and	AND WHEREAS  Merck Patent GmbH Frankfurter Strasse 250 64293 Darmstadt / DE  hereinafter referred to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and all patent(s) listed above, including any and all earlier priority rights (U.S. and foreign), divisions and continuations thereof, including any and all renewals, reissues, reexaminations and extensions thereof.		
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	I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.			
	LEGAL NAME	OF INVENTOR Andreas Benker Date: 26/06/20-7		
	Inventor:	Andreas Benker Date: Date:		
	Signature:			
	A .			

Millen, White, Zelano & Branigan, P.C.
Attorneys at Law
Arlington Courthouse Plaza
2200 Clarendon Boulevard | Suite 1400 | Arlington VA 22201
Telephone: 703.243.6333 | Fax: 703.243.6410
Email: mail@mwze.com

Effective, September 16, 2012

Title of Invention	PHOSPORS AND PHOSPHOR-CONVERTED LEDS		
As the below nam	ned inventor, I hereby declare that:		
This declaration	☐ The attached application, or		
is directed to:	United States Application or PCT International Application number <u>PCT/EP2016/000361</u> filed on <u>02.03.2016</u>		
The above-identif	ied application was made or authorized to be made by me.		
I believe that I am	the original inventor or an original joint inventor of a claimed invention in the application.		
AND WHEREAS			
	Merck Patent GmbH Prankfurier Strasse 250 64293 Darmstadt / DE  Id to as the ASSIGNEE, is desirous of acquiring the entire right, title, and interest in and to said invention and above, including any and all earlier priority rights (U.S. and foreign), divisions and continuations thereof,		
	all renewals, reissues, reexaminations and extensions thereof.		
NOW, ASSIGNOR herel right, title and interest and in an to accrue with resinvention, SAID a including any and which may be graright to sue for datarising from or aptenewals, reissues representatives, ir enjoyed the same,	NOW, WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, ASSIGNOR hereby assigns, sells, and transfers to ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and patent(s), including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, and in and to any and all U.S. (including provisional) or foreign priority and/or convention rights or benefits accruing or to accrue with respect to the filling or securing of patents in the United States and/or any countries foreign thereto concerning said invention, SAID ASSIGNEE, its assigns and legal representatives to have, hold, exercise, and enjoy said invention and patent, including any and all carlier priority rights (U.S. and foreign), divisions and continuations thereof, any and all Letters Patent which may be granted therefor, including any and all renewals, reissues, reexaminations and extensions thereof, including the right to sue for damages occurring before the assignment, with all the rights, powers, privileges and advantages in anywise arising from or apportaining thereto, for and during the term or terms of any and all such Letters Patent, including any and all renewals, reissues, reexaminations and extensions thereof, for the use and benefit of ASSIGNEE and its assigns and legal representatives, in as ample and beneficial a manner to all intents and purposes as the ASSIGNOR might or could have held and enjoyed the same, if the assignment had not been made.		
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	SSIGNOR authorizes and requests the Commissioner of Patents and Trademarks to issue a Letters Patent on one and continuations thereof, to ASSIGNEE, its assigns and legal representatives, in accordance herewith.		
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	IN TESTIMONY WHEREOF this assignment is executed by ASSIGNOR		
	acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by cent of not more than five (5) sears, or both.		
LEGAL NAME ( Inventor: S	OF INVENTOR Date: 30,6,001 tofan Tews		
Signature:			

Millen, White, Zelano & Branigan, P.C.

ATTORNEYS AT LAW ARLINGTON COURTHOUSE PLAZA

2200 CLARENDON BOULEVARD | SUITE 1400 | ARLINGTON VA 22201 TELEPHONE: 703.243.6333 | FAX: 703.243.6410

EMAIL: MAIL@MWZ8.COM

Effective, September 16, 2012

PATENT REEL: 043662 FRAME: 0475

RECORDED: 09/22/2017